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MONTHLY REPORT

OF

THE DEPARTMENT OF AGRICULTURE,

FOR

JULY, 1867.

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MONTHLY REPORT.

WASHINGTON, D. C., *July* 30, 1867.

SIR: I submit herewith for publication a report of returns to the Statistical Division, showing the condition of farm crops of the several States on the first of July, with various statistical data from foreign and domestic sources, as follows: Wool prices in New York and Boston; imports of wool at New York; exports of breadstuffs; revenues of Great Britain; the cotton caterpillar; culture of flowers and manufacture of perfumery; Angora and Cashmere goats; temperature of the soil; culture of sugar beets; farm products and domestic animals in Europe; mineral phosphate of lime; statistics of Bavaria; crops of Europe; and meteorological tables.

J. R. DODGE,
Statistician.

Hon. J. W. STOKES,
Acting Commissioner of Agriculture.

CONDITION OF FARM CROPS IN JULY.

Never has the department been able to report so favorable a prospect for uniformly good crops since the establishment of the statistical division. While exaggerated statements have been made in influential papers, especially of the so-called failure of the wheat crop of last year, and the importation of wheat, in the face of the fact that twelve millions of dollars' worth of breadstuffs were exported in the first four months of 1867, immense numbers of immigrants were fed, a much larger amount of wheat used for seed than usual, with a surplus still remaining over sufficient to break numerous speculators and several banks, it is gratifying to know that we shall have a surplus to more than make good the deficiency—not the "failure," for there never was a failure of the wheat crop in this country—of the last three crops of wheat. Four States—West Virginia, Kentucky, Ohio, and Indiana—made but about half a crop. No other States were in that category, and Iowa, Missouri, and Kansas made a good crop. Instead of a deduction of fifty per cent., or ninety millions of bushels, which would at least have threatened a famine, scarcely more than a third of that deduction should be made. For three years past the product has been but about five bushels to each inhabitant. The crop of 1859, if the census returns are correct, was but five and a half bushels to each person. The promise for the present year is about six bushels.

Wheat.—The statistical returns for July show an improvement in condition of winter wheat over last year, in every State but Texas, Nebraska, and Minnesota, the diminution in the latter case being but 4 per cent. The highest improvement is in Ohio, 160 per cent.; Georgia, 96; West Virginia, 78; Tennessee, 72; Indiana, 54; Kentucky, 53; Michigan, 35; Vermont, 25; New Jersey, 25; New York, 17, &c. Spring wheat was a far less variable product last year, and there is consequently less variation in the figures used in the present comparison. All the States, however, except Vermont, New York, and Pennsylvania, show an increase on last year.

Corn.—The acreage in corn is unusually large, every State showing a material increase, except Maine, New Hampshire, New York, and South Carolina. In the southern States the increase ranges upwards to 102 per cent., as in Arkansas. The condition, as reported, is a little deficient in the northern and western States, on account of the lateness of the spring. With the continuance of the present weather there is ample opportunity to make up the entire deficiency, in which case the yield will be unprecedented.

Rye.—A glance at the tables will show the fine condition of this grain, and the remarkable uniformity of the improvement.

Barley.—The condition of this grain promises an increase of from ten to twenty per cent., in Massachusetts, Rhode Island, Connecticut, New Jersey, West Virginia, Kentucky, and Indiana, and 42 per cent. in Ohio. Most of the other States show some increase.

Oats.—The condition of oats points to a full average in the West, particularly in Wisconsin and Minnesota, also in Massachusetts, Rhode Island, Connecticut, New Jersey, and the South; slightly less than last year in Maine, Vermont, New York, and Kentucky.

Pastures and hay.—These crops are almost universally large, from an average up to 15, 20, and even 30 per cent. above.

Potatoes.—The report of acreage of potatoes indicates a larger area planted in every State, except Maine and New York. The condition is also above an average with a few exceptions, among which are New York, Ohio, and Indiana.

Fruits.—Peaches are so exceptional in their successful seasons and localities that estimates for States can scarcely be made with accuracy. New Jersey, as indicated by very general returns, shows 63 per cent. improvement over last year; Maryland 25; Delaware 150; Virginia 35; Michigan 127. In other States estimates are given upon whatever data was received, generally showing a considerable increase over last year. Apples are promising in portions of New England, the Alleghany region, and the West. Grapes are more uniform in averages of States, generally appearing unusually well. It has been a more successful year for strawberries than usual, as a study of the tables will show.

Sorghum.—The sorghum crop is generally returned in comparatively poor condition, with lower figures than any other crop. Ohio and Indiana indicate a deficiency in acreage of 14 per cent., and in condition of 10 per cent. All the principal sorghum-growing States show a similar state of facts.

Tobacco is much like sorghum, manifesting a decline in acreage and generally in condition.

Cotton.—There is an increase of acreage in North Carolina, Georgia, Alabama, and Arkansas. Texas, 10.1; Mississippi, 9.4; Louisiana, 8.1. The average is about the same as last year. There is a slight difference, as reported, in favor of the present crop. The department estimates made last October, of 1,835,000 bales, proved to be singularly accurate for approximate calculations of so early a date, though they were severely criticised by northern and southern speculators, some of whom publicly acknowledged their error after the crop was sold. It is too early to predict the successful avoidance of all the numerous enemies of cotton. Had the last crop been a good one it would have yielded 2,500,000 bales; a very good one would have realized 3,000,000. Such results are possible this year.

Wool.—An examination of this item of the tables will show that losses of sheep, unthrifty condition, and a wet spring have had an influence both upon numbers and weight of fleece, and will lead to the conclusion that our wool clip of the present year is not materially larger than that of last year.

Table showing the condition of the crops on the first day of July, 1867.

STATES.	CORN.		WHEAT.		RYE.		BARLEY.		OATS.	PASTURES.
	Total acreage compared with last year.	Average condition July 1, compared with last year.	Average condition of winter wheat July 1, compared with last year.	Average condition of spring wheat July 1, compared with last year.	Average condition of winter rye July 1, compared with last year.	Average condition of spring rye July 1, compared with last year.	Average condition of winter barley July 1, compared with last year.	Average condition of spring barley July 1, compared with last year.	Average condition July 1, compared with last year.	Average condition July 1, compared with last year.
Maine	8.9	9.2	10.3	9.6	10	9.4	11	9.3	9.6	12.4
New Hampshire	9.3	10	10	10.5	10	10	10	10.7	10	12.3
Vermont	9.1	9.4	12.5	9	10.6	10	10	9	9.2	11.6
Massachusetts	10.3	9.8	10.8	11.5	12.4	11	12	11.2	11	13.3
Rhode Island	10	10	.....	.....	10	10	11	11	10.5	12.5
Connecticut	10.2	10	12.3	11.6	12	12.5	11	10.3	11.5	14.2
New York	9	9.1	11.7	9.4	10.8	9.2	10.1	8.7	9.1	11.4
New Jersey	10	9	12.5	10	11.3	10.3	10.2	10	10.4	12.2
Pennsylvania	10.2	9	14	9.9	12.2	9.5	12	9.4	10	12
Delaware	10	9	13	10	11	.....	.....	12	10	13
Maryland	10	8	13.3	.....	11.3	10	10	10	10.6	11.3
Virginia	11	9.3	11	13.7	11.7	11	10.6	11	10.3	12.8
North Carolina	10.3	9	13	13.1	11	10.2	11.5	.....	11.3	11.3
South Carolina	9.7	11	14	13.5	11	11.7	12	.....	13	10
Georgia	11.2	14	19.6	19	12	13.7	11.2	11.3	15	14.3
Florida	11	11	.....	.....	8.5	10	.....	.....	8	10
Alabama	13.3	17	17.6	18.2	11.2	10.5	11.5	10	12	11.1
Mississippi	13	14	11.8	10.4	10	9	10	10	11	10.7
Louisiana	13	11.5	10.7	10	11	10	.....	.....	11.7	11.5
Texas	11.1	12	6.5	6.3	9	8.8	9.2	9.2	9	10.7
Arkansas	20.2	10.5	14.2	9.5	12	.....	10	.....	14.6	10.3
Tennessee	12	10.4	17.2	17	10.5	10.5	10.2	10	9.3	11.3
West Virginia	10.8	8.5	17.8	12.3	13.2	11.2	12.5	11	10.6	11.5
Kentucky	10.5	10	15.3	10.4	11	10	11	9.1	9	10.1
Missouri	11.9	10.1	13.6	12.9	12.1	10.4	10.9	10.6	11.2	12
Illinois	10	8.4	10.3	11	10.2	10	10.2	10.9	10.5	11
Indiana	10	9	15.4	11	11	10.1	11.2	10	9.9	10.4
Ohio	10.2	9	26	14	16.2	10.7	14.2	11.2	10.1	11.5
Michigan	10.1	9.5	13.5	10.6	11	10.1	10	10.2	10.2	11.1
Wisconsin	10.1	9.2	11.3	12	10.2	10.3	10.2	10.7	11.2	12
Minnesota	10.8	9.1	9.6	12.4	9.9	10.2	10	11	11.4	12
Iowa	10.4	8.9	10	10.3	10.4	10.5	10.2	10.1	10.5	11
Kansas	12	9.1	10	10.5	9.9	9.8	9.8	10.6	11.8	11.7
Nebraska	12.4	9.6	5.6	9.8	8.1	10.3	7.3	9	10	12

Condition of the crops, &c.—Continued.

STATES.	CLOVER.	TIMOTHY.	POTATOES.		BEANS.		SORGHUM.		APPLES.	PEACH'S
	Average condition July 1, compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Average condition compared with last year.	Average condition compared with last year.
Maine	14.7	12.5	9.9	9.3	10	10.2	10	10	9.6	12
New Hampshire	12.3	12	10.6	10	10.5	10	.....	.....	9.6	11.3
Vermont	10.4	10.5	10	9.5	10	9.5	.....	.....	12.4	.....
Massachusetts	13.5	11.7	11	11	10	10.3	10.3	10	10.3	15.3
Rhode Island	11.5	11.5	11	10.5	10	10	.....	.....	11	12
Connecticut	12.2	12.2	10.5	10.2	10	9.6	9.6	9.3	10.6	13.6
New York	11.4	11	8.6	9	9.4	9.7	9.4	9	9.8	9.5
New Jersey	12	12	10.3	10.7	10	10	7.4	8.7	9	16.3
Pennsylvania	12.3	12.2	10.7	9.8	10	9.8	9	9.2	9.2	11.2
Delaware	12.5	12.5	10.5	11	10	10	9	8.5	10.5	25
Maryland	12.4	11	10.5	10	10	9.5	9.6	9	9	12.5
Virginia	11.8	12	10.4	10.3	10	9.5	6.5	8.6	15.2	19.3
North Carolina	12	10.1	10.5	10	10.2	10.2	7.7	8.8	10.3	13.5
South Carolina	10	.....	10	10	10.6	10.3	6.6	10.4	6.4	12.5
Georgia	14	12	12.3	12.7	13.6	13.5	8	10.8	7.5	10
Florida	.....	.....	11.5	11.5	5	10	3	5	.....	9.5
Alabama	11	10.3	11.1	11.4	10.2	10.5	7.7	10.1	5.2	6
Mississippi	11	11	10.7	11	10.1	10.2	6.7	8	5.6	1
Louisiana	.....	.....	10.8	9.3	.....	.....	16	10	5.3	3.3
Texas	10	10	11.6	10.5	10.1	10.7	8.5	9.7	7.8	4.2
Arkansas	9.6	9.6	16	10	13	10.7	13	11.6	6.8	5
Tennessee	11	10.7	10.7	9.8	10.3	10.2	9	8.9	5	6
West Virginia	11.4	11.2	11.9	10.8	10.1	10.2	10.2	9.5	16.2	10.8
Kentucky	10.3	10.3	10.7	10	10.1	10.1	9.3	9.1	14.8	14.8
Missouri	11.5	12.6	11.9	11.4	10.3	10.2	9.9	9.8	11.6	17.6
Illinois	11	11	10.1	9.2	10.1	9.5	8.2	9.3	10.5	16.6
Indiana	11	11.5	10.1	9.5	9.8	9.8	8.6	9	11.3	20.2
Ohio	12.1	11.7	10.5	9.7	9.7	9.7	8.6	9	10.5	26.2
Michigan	12	10.2	11	10.2	10.1	10.2	8.7	9.2	11	22.7
Wisconsin	11.1	11.2	10.3	9.5	9.9	9.9	8	9.5	15.2	12
Minnesota	11.1	12.8	11.7	10.6	11.3	10.1	9.2	8.6	10.7	10
Iowa	11.2	11	10.5	10.7	10.3	9.7	8.9	8.6	11.2	19.6
Kansas	10.8	10.9	12.2	11.6	11	9.6	10.8	9.5	12	13.1
Nebraska	11	9.7	13	10.8	12.6	10.1	11.7	9.7	12.1	17.2

Condition of the crops, &c.—Continued.

STATES.	GRAPES.	STRAWBERRIES.	TOBACCO.		COTTON.		SUGAR CANE, (not sorghum.)		WOOL.
	Average condition July 1, compared with last year.	Amount of crop compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total acreage compared with last year.	Average condition July 1, compared with last year.	Total quantity of wool sheared this spring, compared with last year.
Maine	9.3	12	10	10	.....	.....	.....	.....	9
New Hampshire	10	9.6	.....	.....	.....	.....	.....	.....	9.6
Vermont	11	11.4	9.5	8.5	.....	.....	.....	.....	9.9
Massachusetts	11	14.5	7.6	11	.....	.....	.....	.....	10.5
Rhode Island	10	12	.....	.....	.....	.....	.....	.....	9.5
Connecticut	10.7	16	8.5	11	.....	.....	.....	.....	9.6
New York	9.8	11.2	9	9	.....	.....	.....	.....	10.5
New Jersey	10	12.4	10	10	.....	.....	.....	.....	9.8
Pennsylvania	10.1	11.2	8.8	9.6	.....	.....	.....	.....	10
Delaware	10	19.5	.....	.....	.....	.....	.....	.....	11
Maryland	11	12	7.5	10	.....	.....	.....	.....	10
Virginia	11	11	11.5	9.5	9.1	7	.....	.....	10
North Carolina	10	13	10.3	9.4	14.5	8.6	.....	.....	9.8
South Carolina	9.6	9.8	10.5	9.5	9.7	10	7.5	9	8.1
Georgia	11.7	10.6	10.5	11	11.2	11.5	10	10	9.8
Florida	6	.....	10	10	8.7	8.7	10	12	8.7
Alabama	10.2	9.8	8.1	9.5	12	15.2	8.5	10.2	9.2
Mississippi	9.1	9.7	8.2	10	9.4	11.1	10	10	8.1
Louisiana	6.7	6.7	10	10	8.1	10.2	16.5	9	9
Texas	8.7	11.8	8.1	8.7	10.1	9	10.2	8.2	9
Arkansas	11.3	7.5	9.2	9.6	13	7	.....	.....	14
Tennessee	9.6	9	9	9.1	9	10	.....	.....	10.1
West Virginia	12.2	11.4	10.1	9.6	.....	.....	.....	.....	11.1
Kentucky	10.7	12	8.8	.....	9	9.4	.....	.....	10.1
Missouri	10.8	12.1	9	10.1	10	9	.....	.....	10.8
Illinois	11	13.2	8.8	9.7	7.3	8.6	.....	.....	10.3
Indiana	13.3	11.7	9	9.1	.....	.....	.....	.....	10.3
Ohio	12.8	13.5	9	9.5	.....	.....	.....	.....	9.8
Michigan	11.1	14.5	9.5	9.7	.....	.....	.....	.....	9.8
Wisconsin	11.3	13.1	8.6	9.4	.....	.....	.....	.....	10.6
Minnesota	10.2	13.4	10	9.4	.....	.....	.....	.....	10.2
Iowa	11	13	9	8.8	.....	.....	.....	.....	11.2
Kansas	12.8	10.7	10.3	9.1	9.4	8.1	.....	.....	11.2
Nebraska	12.3	14.8	11.1	9.6	.....	.....	.....	.....	12.9

EXTRACTS FROM CORRESPONDENCE.

UTAH COTTON.

The Secretary of the Southern Utah Agricultural Society sends to the department a sample of cotton of fair quality grown in Washington county, in that Territory, and says:

"The first cotton grown in this section was from the 'Tennessee green' seed, which at first was very short in staple, but has steadily increased up to the present time, so that it now may be fairly stated that our cotton will favorably compare with any of the general crops raised in the best cotton-growing States. This improvement we believe is owing to the introduction of the 'Sea Island,' 'Petty Gulf' and 'North Carolina Green Seed,' by favor of your department. We found that by preserving the identity of the three last named kinds, our season was a little too short for their successful cultivation; but by ceasing to preserve that identity we now have a very good staple for all ordinary purposes; and so far as yield is concerned it is good for this country, where all crops must be irrigated. As high as 600 pounds of cotton lint, with good staple, has been raised on three-fourths of an acre, carefully measured, and no part of the growth of stalks exceeded four feet in height."

The same correspondent writes:

"I believe that a good variety of fall wheat would be a blessing to this country. We find that by sowing our spring wheat (Taos White) in September, we have harvested 71½ bushels per acre, while the same kind of seed and soil, by putting in early in the spring, yields but from 22 to 25 bushels, and then the grain is not as plump as that raised from early fall sowing."

INCOME OF DAIRYING.

Medina county, Ohio.—Sheep are decreasing and cows increasing in this county. Almost every township has one or more cheese factories, and farmers generally carry their milk to them. Factory cheese is much sought after. Carry a cheese to the Cleveland market, and the first inquiry is, "Is it factory-made?" "No." "Then we don't want it." Thus we farmers are compelled to patronize these new institutions, which are working a great change in "Cheesedom," as our section of Ohio is called.

COTTON CULTURE IN NORTH CAROLINA.

Bertie county, N. C.—Our principal crop for market has been, and still is, cotton. We find it very profitable, and it is the most certain crop that we plant. The casualties which often prove disastrous to the crop at the south never happen to us. We are never seriously injured by the army worm, (which was never seen here,) the boll worm, the chinch bug, nor caterpillar. The rust and blight have sometimes, in the recollection of our farmers, injured the crop somewhat, but seldom more than two per cent., and it really amounts to nothing. Dry weather in the summer benefits the crop. By a little manuring we easily raise from one thousand to twelve hundred pounds of seed cotton per acre, and we can raise two thousand pounds. Upon comparing my own operations with those of persons whom I have met from the southern States—Tennessee, Mississippi, Louisiana, and Alabama—I have long been satisfied that it is more profitable to cultivate cotton in this section than upon their best lands, taking five years together—the losses from casualties to their crops more than balancing their superior yield in favorable seasons and our expenses for fertilizers.

SILK CULTURE IN CALIFORNIA.

A California correspondent (Mr. L. Prevost) writes encouraging accounts of the progress of silk culture in that State. He states that while not more than

twenty persons were engaged in the business last year, more than five hundred have commenced operations the present season, and expresses the opinion that there will be ten times the number next year. He writes: "My worms are doing finely this year. In about two weeks they will begin to make their cocoons. This year again, I have not seen one sick worm—a confirmation of my opinion that the disease is not in the worm, but in the food. My observations here have convinced me of that fact. It is well known that where the mulberry tree is growing in the shade the leaves absorb the oxygen of the atmosphere, and this is what creates disease in other countries. Here, at the time of feeding, we have constant sunshine from morning till night, and consequently our leaves are always in good condition for the worms. This is the secret of the superiority of California over other countries for the culture of silk. * * Immense quantities of silk may be produced in this State; we have millions of acres of the best mulberry soil, and the climate is the best in the world for the worms."

THE BOUGHTON WHEAT.

Duplin county, N. C.—Last fall I received from the department a small bag of Tappahannock or early Boughton wheat. This wheat (about one quart) I sowed in drills, eighteen inches apart, on the 15th of October. The land was a stiff, sandy loam, as fertile as land can well be made here. Immediately after the wheat came up the grasshoppers destroyed about one-fourth of it. In February I gave the wheat a top dressing of guano and phosphate of lime, mixed at the rate of two hundred pounds to the acre. In April the rabbits destroyed nearly one-fourth of the remainder. The wheat headed out the last week in April, and in May took the rust on the blades, injuring it to some extent. On the 10th of June I harvested the crop, obtaining a yield of three bushels and one peck of wheat from the one quart of seed—one hundred and twenty fold—an enormous yield for this section. The wheat grew, on an average, five feet in height, and ripened ten days earlier than our fall wheat. I think in an earlier spring it would ripen twenty days in advance of our common wheat, and ordinarily it would ripen early enough to escape the red rust, which is the greatest drawback we have to contend with in wheat-raising.

Smith county, Tenn.—I received from the department last fall two pounds of early Boughton or Tappahannock wheat, which was sowed on the 27th day of September, on one twenty-fourth part of an acre. It was cut on the 12th of June and threshed out eighty pounds of very fine wheat. Just as it was ripening the guinea chickens destroyed at least ten pounds of it. After all the loss, it will be seen that I saved at the rate of forty bushels to the bushel sowed, or thirty-five and a half bushels to the acre—more than double the best yield of ordinary wheat in this section. I shall sow the product this fall and test it on a larger scale.

Another correspondent, writing from De Kalb county, Alabama, received a similar package of the same wheat. He sowed it on land much worn, with a soil about three inches dark loam, and stiff clay sub-soil, which had been cultivated in corn the preceding year. The wheat was sowed on a square of twenty feet, fertilized with four loads of stable manure ploughed under. Harvested on the 18th of June, and on the 3d of July threshed out two and a half bushels (weighing one hundred and fifty-seven pounds) of the finest wheat ever seen in this neighborhood. I shall sow the whole in the fall, and if it yields half as well another year it will be a great addition to our crops.

HYBRIDIZING GRAPES

Chester county, S. C.—I have been for some years engaged in hybridizing the grape, and after many trials have succeeded in producing a hybrid Scupper-

nong grape-vine, which has fruited this season. It was produced by impregnating the white Frontignac with the Scuppernong. I have growing several seedlings produced by impregnating Herbemont with the staminate hybrid Scuppernong above referred to, one of which I expect will bear next summer. I have often made grape seedlings bear in one year from the seed by inarching on strong shoots of old vines, when the seedlings were only a few inches high. I expect to publish, in the course of the summer, the progress of my experiments. In hybridizing native and foreign, I have more hope from the Scuppernong than any other species. I have fruited a hybrid produced by impregnating the Clinton with foreign, which is equal in size to the Black Hamburg, and pronounced by Parsons & Co., (to whom I sent a bunch last summer,) "superior to Black Hamburg in flavor and its equal in texture." The Clinton hybrids are free from mildew. I have never been able to fertilize the Scuppernong with any other species, but have produced hybrids by fertilizing foreign with Scuppernong; but out of six vines of bearing size that have bloomed not one has borne fruit, being defective in their reproductive organs, although remarkably healthy vines. Some were hermaphrodites, but their stamens produced no pollen; others were males (staminate) and their stamens produced perfect pollen, with which I have impregnated both native and foreign, and hybrids of native and foreign. I now have a most interesting strain of Scuppernong hybrids coming on, and this spring attempted to impregnate Scuppernong with my staminate hybrid Scuppernong, with the hope of producing a valuable strain in that direction.

A correspondent, writing from Butler county, Missouri, sends us the following as a preventive of blight on grapes: "Saturate the leaves with air-slacked lime when the dew is on them, and if washed off by the rain renew the application. This preventive has never failed with me, and I now have fine grapes on vines from which all the fruit dropped before I tried the lime."

THE POTATO BUG.

De Kalb county, Ill.—The potato bug is making fearful ravages with the potato crop here. It is the same bug that came over the plains from the vicinity of the Rocky mountains, and is "marching along," carrying destruction in its train. We know of no remedy here other than "eternal vigilance." We whip them off from the vines, also pick them, and use quicklime; but to the lime they pay no regard. Probably the best method is picking and burning. Machines have been invented further west, where the crop was destroyed last year, which collects them in a box, and then they are burned.

Putnam county, Ill.—The potato bug is doing great damage in this county. Probably one-third of the vines are now destroyed, and the bugs are still increasing in numbers.

CHANGE OF COTTON SEEDS.

A correspondent, writing from Henderson county, Texas, says: "I know from experience that a change of cotton seed, much more than climate, affects the quality and quantity of the crop produced. Let any one who cultivates sandy land, where the cotton stalks grow tall, (and it grows as the timber grows,) exchange cotton seed every two or three years with his neighbor who cultivates stiff, limy land, where the cotton spreads and the joints are short, and both parties will be convinced of the advantage. A stranger, the first year, could point out the row where the exchanged seeds begin. The same is equally true of corn, wheat, rye, and barley."

GRASSHOPPERS IN NEBRASKA.

Nebraska City, Neb.—The season has been cold and backward, yet favorable for small grains, until the grasshoppers—or, as some call them, the red-legged

locusts—hatched and commenced depredations upon our wheat, which has suffered tremendously. Many fields will not be worth cutting. Some fields of corn are badly thinned, and we fear that when the wheat has matured they will attack the corn with renewed vigor. Potatoes in some places are completely stripped, and our gardens are eaten through and through.

Our correspondent from Richardson county, Nebraska, writes that the grasshoppers have destroyed nearly all the crop in that county, and are still at work.

Another correspondent, writing from Douglass county, Kansas, says the grasshoppers or locusts have been doing much damage in that vicinity to all kinds of vegetation.

DISEASE AMONG CATTLE.

Washington county, Nebraska.—A disease has prevailed in this county among cattle, called the "black leg." Those attacked are invariably very early calves in the fall or common spring calves, at or near a year old, and always those in best condition and most promising in the lot. The first intimation of the disease is a slight lameness in one leg, and in about twenty-four hours the calf is dead, without any disfiguration or coloring until after death, when the leg turns black and appears in a high state of putrifaction. Nothing has yet, to my knowledge, been found to arrest or in the least to alleviate the disorder. A preventive has been said to exist in simply giving to the herd of calves during the fall and spring a mixture of salt and sulphur regularly. The disease is fast disappearing, but in former years nearly one-fifth of all the calves died of "black leg."

VERMONT RAMS WANTED.

Randolph county, North Carolina.—We have no sheep in this part of the country but natives. The cost of keeping per head forty cents; yield of wool one and one-half pounds per head. Sheep are more numerous here now than before the war. O that some one of those rich gentlemen of Vermont that have so many of those wonderful Merinos would be pleased to donate a ram to some one or more persons here in order to improve our native breed. By so doing his name would ever be held in grateful remembrance by the people.

COST OF KEEPING SHEEP IN THE SOUTH.

Union county, South Carolina.—It costs very little to keep the sheep we have here. I will state some facts in regard to my own little flock. I wintered twenty-two. These sheltered only on two occasions; once for a week or ten days in January, when snow was on the ground, and once during a cold rain. I fed them about two months. The cost was as follows:

Twelve bushels cotton seed at forty cents	$4 80
Salt for one year	1 50
Total cost	6 30

Cost for each sheep, 28½ cents.

From these sheep I have sixteen lambs. The wool will be worth from $20 to $25, and the increase, sixteen lambs, worth $2 each by fall, $32—giving me over $40 clear. But sheep-raising receives little attention in a cotton country. I raise them only for the mutton. When dogs do not interfere with us, our mutton does not cost more than one cent per pound.

Lavaca county, Texas.—"Winter quarters" are, in a manner, unknown here. The sheep grazing on the prairies, when the range has been good all winter, owing to very mild weather, with the exception of a few cold days, are in very

good condition. There is no difference in cost of keeping the different breeds. Herding is generally done by small boys, at very little expense. The flocks in this county are mostly a mixture of the Mexican and Merino sheep; but little attention is being paid to this branch of industry.

DOG DEPREDATIONS.

De Kalb county, Alabama.—"We have a fine county for sheep-raising, if there could be any protection from dogs. I have known all the sheep in the neighborhood killed in a few days, or nights, rather, by those pests."

Newton county, Georgia.—Cotswold and South Down sheep are favorites here. With proper care and security against dogs, no State is better adapted to sheep husbandry than this.

Wilkes county, Georgia.—We raise but few sheep. Dogs prevent this being a sheep-raising county.

WOOL PRICES.

The price current of wool at Boston, July 12, 1867, was as follows:

Ohio, Pennsylvania, and Virginia coarse, (common, one-quarter blood,) 45 to 50 cents; medium, (one-half blood,) 50 to 54 cents; fine, (three-quarters to seven-eighths blood,) 54 to 57 cents; extra, (full blood,) 57 to 60 cents; double extra, 60 to 63 cents; XXX, 63 to 68 cents.

Indiana coarse, 45 to 48 cents; medium, 48 to 51 cents; fine, 51 to 55 cents.

Michigan coarse, 45 to 48 cents; medium, 48 to 52 cents; fine, 52 to 55 cents; extra, 55 to 58 cents.

New York and Vermont coarse, 45 to 48 cents; medium, 48 to 52 cents; fine, 52 to 55 cents; extra, 55 to 57 cents.

Wisconsin and Iowa coarse, 42 to 45 cents; medium, 45 to 48 cents; fine, 48 to 52 cents.

Illinois and Minnesota coarse, 42 to 45 cents; medium, 45 to 47 cents; fine, 47 to 50 cents.

Sundries.—Combing, (Ohio, Pennsylvania, Indiana,) 55 to 58 cents; combing, (western,) 50 to 55 cents; combing, (Canada,) 65 to 68 cents; clothing, (Canada,) 47 to 50 cents; tub, (Ohio, Pennsylvania, Indiana,) 52 to 58 cents; tub, (western,) 48 to 53 cents.

Pulled, extra, 53 to 58 cents; superfine, 43 to 48 cents; No. 1, 35 to 40 cents; Philadelphia Merino, 50 to 53 cents; do. No. 1, 40 to 42 cents; Cincinnati, 37 to 40 cents.

The following were the prices in New York at the same date:

	Cents.
Pennsylvania, Ohio, and Virginia choice Saxony fleeces	70 to 75
Pennsylvania, Ohio, and Virginia Saxony fleeces	65 to 70
three-quarters and full-blood Merino	60 to 65
half-blood	55 to 60
quarter-blood	50 to 55
common	45 to 50
New York, Michigan, and Indiana, full-blood and three-quarter	57½ to 60
half-blood	52½ to 55
quarter-blood	50 to 52½
common	45 to 47½
Western, fine	50 to 55
medium	47½ to 52½
common	45 to 47½
Southern, washed	45 to 50

	Cents.
Southern, unwashed	30 to 35
Texas, fine	30 to 37½
medium	25 to 30
coarse	22 to 30
inferior	15 to 20
burry	12 to 18
California spring clip, fine	30 to 45
medium	26 to 30
coarse	18 to 22
fall clip, fine	21 to 32
coarse	20 to 25
Oregon, combing	40 to 44
A 1 do	35 to 42
A 2 do	32 to 38
Canada, combing	65 to 70
domestic, combing	55 to 65
Country pulled, extra	55 to 60
super	45 to 60
Country, No. 1	28 to 35
New York city, extra	45 to 50
super	40 to 45
No. 1, pulled	25 to 30
Lambs' wool	37½ to 40
Philadelphia Merino	45 to 50
No. 1	40 to 45
Tub washed, choice	52½ to 57½
fair	50 to 55
inferior	45 to 47½
Mexican, washed, fine	30 to 40
medium	28 to 30
coarse	22 to 26
Buenos Ayres, Merino	34 to 38
Mestiza, No. 1	28 to 33
No. 2	24 to 26
No. 3	20 to 25
No. 4	20 to 22
Banda oriental and Montevideo Merino	38 to 40
No. 1	32 to 36
No. 2	30 to 32
No. 3	26 to 30
Entre Rio, washed	40 to 46
unwashed	20 to 22
Rio Grande, washed, fine Mestiza	40 to 46
unwashed	23 to 25
Odessa Merino	32 to 36
Australian	40 to 43
Cape	35 to 42
Donskoi, white, washed	45 to 50
black	30 to 32
unwashed, white	25 to 30
black and gray	18 to 22
Provence	15 to 20
Chilian, unwashed, fine fleece	25 to 32
medium	24 to 26
common	26 to 28

	Cents.
Valparaiso, fine, unwashed	25 to 28
coarse	28 to 30
Cordova, washed	28 to 40
Mogadore, unwashed	18 to 20
washed	30 to 40
Smyrna, washed	40 to 42½
unwashed	18 to 21
East India, fine, washed	40 to 42½
medium	30 to 32½
common	20 to 30
Spanish, washed	21 to 23
unwashed	15 to 23

WOOL IMPORTS.

The following table of imports of foreign wool at New York during the first six months in 1867 is not official, though probably reliable, as published in the New York Journal of Commerce:

Countries.	No. of bales.	Weight, lbs.	Entered, value.
England	7,436	3,086,365	$607,012
Argentine Republic	6,220	4,412,994	679,152
France	3,346	1,251,311	164,509
Africa	221	98,830	17,918
Brazil	1,129	738,639	118,683
New Granada	14	2,181	279
Dutch West Indies	6	2,270	217
Mexico	1,717	1,390,107	229,653
Russia	4,135	1,515,359	309,137
British East Indies	100	33,600	5,475
British Australia	1,198	467,025	101,872
Total	25,522	12,998,681	2,233,907
Same time 1866	44,477	28,476,950	4,014,431

EXPORTS OF BREADSTUFFS FROM THE UNITED STATES.

The following statement is from the statistical bureau of the United States treasury:

Breadstuffs.	February.	March.	April.	May.	Total for four months.	
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Value.*
Bread and biscuit, lbs	522,151	546,516	583,851	523,049	2,175,567	$187,355
Indian corn, bush	928,137	969,463	1,371,701	1,535,384	4,804,685	5,648,675
Indian meal, bbls	14,132	21,340	22,586	29,955	88,012	519,412
Oats, bush	23,801	39,699	17,381	8,968	89,849	62,190
Rice, bbls	59,252	173,444	98,147	69,042	399,885	28,835
Rye, bush	30,481	.....	.....	.....	30,481	27,087
Rye flour, bbls	144	11,148	2,111	1,824	15,227	51,113
Wheat, bush	681,407	432,790	529,023	474,076	2,117,296	2,512,396
Wheat flour, bbls	59,904	82,283	86,430	75,202	302,398	3,149,751
Potatoes, bush	55,977	44,458	25,315	21,607	147,357	146,179
Total	.....	.....	.....	.....	.....	12,334,828

COTTON IMPORTS INTO GREAT BRITAIN.

Countries.	1866.	1867.
Cotton, raw :		
From United States, cwts	2,471,929	2,690,611
Bahamas and Bermuda	2,734	4,083
Mexico	3,145	22
Brazil	332,708	309,862
Turkey	76,794	40,847
Egypt	551,251	657,197
British India	1,649,553	538,815
China		2,041
Other countries	91,956	110,004
Total	5,180,070	4,353,482

REVENUE OF GREAT BRITAIN.

From—	1866.	1867.
Customs	£21,369,000	£22,531,000
Excise	20,067,000	20,554,000
Stamps	9,533,000	9,484,000
Taxes	3,421,000	3,496,000
Property tax	5,777,000	5,680,000
Post office	4,350,000	4,550,000
Crown lands	321,000	331,000
Miscellaneous	2,868,436	3,126,829
Total	67,726,436	69,752,829

THE COTTON CATERPILLAR.

As the cotton caterpillar has already made its appearance unusually early in the season, we publish the following letter which the Department of Agriculture has received from Mr. G. W. Morse, of Natchitoches, Louisiana. The plan he recommends is doubtless good, as should all the planters combine to destroy the caterpillars when they first make their appearance in isolated plantations, before the moths have hatched out of the chrysalides, the second and third generations, which do all the damage, would not appear; or if they did, it would be in so few numbers as to do comparatively little harm to the crop. The department, however, has no power to authorize postmasters to employ laborers to destroy them, but if public meetings were held in different counties, the planters might adopt some plan by which combinations could be formed for their mutual benefit; for although a planter may feel comparatively safe as long as the worm is not in his own fields, yet if his neighbor's plantation is infested by them it is of the greatest importance to him to destroy them at once, before the second and third generations migrate to his own cotton and ruin the crop:

WASHINGTON, D. C., *July* 17, 1867.

SIR: It is reported by the newspapers that the cotton worms have again made their appearance in Louisiana, and as soon as they shall have time to grow to their full dimensions, and roll themselves up in the leaves, we shall probably hear, as usual, that they have all gone, or that the report was without foundation.

Believing that they have appeared, and that the greater part of the crop may yet be saved, I hope that I shall be excused for troubling you with this communication.

Many years ago I investigated this subject closely, surrounding a stock of cotton by mosquito netting, and raising the worm in that way. I ascertained the following facts:

1. The moth, or cotton fly, will deposit from three to five hundred eggs. These eggs are of a bluish green color, and seem to be glued to the under side of the leaf.

2. These eggs will hatch into worms in four days' time.

3. The worm will generally attain its full size in about eight days, and roll itself up in the leaf.

4. In eight days afterwards it will come out in the form of a moth, too well known to require description here.

5. The whole time required for one generation is from 26 to 28 days.

It follows, then, that a single worm on the first of July is capable of producing five hundred worms by the 28th of the same month. On the 5th of August these worms give us five hundred moths, part males and part females. We will suppose there are three hundred of the latter. This would give us 150,000 worms about the 24th of August, and these multiplied again by 300 would give 45,000,000 as the number produced by this one worm about the 20th of September. One hundred worms, then, on the first of July are capable of producing 4,500,000,000 on the 20th of September. Now, if these one hundred worms could be destroyed during the first few days of July, or even most of them, one month's time would be gained, and that month the one most essential to the maturity of the crop.

All plans of destroying the moths by fires in the fields, or by any other process of which I have yet heard, are entirely fallacious, and only do harm by leading planters to misapply their energies. The worms generally begin in some low place in the field, and at first eat round in a small circle, being few in number.

The only means by which the crop can be saved is to kill this first lot, or at least all that can be found of them, remembering always that every worm destroyed now is equal to many millions in less than three months' time. If this can be accomplished I am confident that one or two months' more time will be gained for the maturity of the crop.

Since we now have military governments in the south, I have thought that your official sanction to this plan would give it such weight that the commanding generals of Louisiana and Texas might endeavor to have it carried into execution by giving notice of the time when all should commence, or by other means which to him might appear, and his orders, I am confident, would be obeyed by the people with alacrity. To be successful the operation must be general, for it would be futile for one or two planters to attempt it while the rest remained idle. If I am correct in my views, and success should not reward our efforts this year, owing either to the want of concert of action or the lateness of the season, public attention would be directed to the proper course of proceeding, and another year better results might be obtained.

If the postmasters throughout the lower cotton region were properly instructed from your office, and authorized to offer a reward for the first cotton worm, moth, or egg which should make its appearance in their vicinity, and then authorized to employ laborers to destroy them, or have power to call out everybody for that purpose, no more crops would be lost by the cotton worm. The great difficulty is to obtain general action in time to produce the required results.

I am, sir, very respectfully, your obedient servant,

GEO. W. MORSE.

Hon. J. W. STOKES,
Acting Commissioner of Agriculture.

MANUFACTURE OF PERFUMERY.

From an interesting paper upon the cultivation of flowers and the manufacture of perfumery at Nice, France, by Mr. A. O. Aldis, United States consul at that port, we learn that the export of perfumery from Nice, Grasse, and Cannes to the United States last year amounted to about $40,000. There are six or seven manufactories at Nice, the same number at Cannes, and at Grasse about sixty. These manufacturers supply perfumers in all quarters of the world. There is a distinction between the manufacturer and the perfumer. The business of the former is to extract from the flowers their essential oils. The perfumer buys these oils, pomades, and extracts, and compounds them in various ways.

A warm, dry climate, sunshiny during the period that the flowers are in bloom, is best for the manufacture of perfumery. The climate and long winters of our northern and middle States forbid the prosecution of this business, but it may become profitable in the States bordering on the gulf of Mexico and in California. A few years since a French manufacturer had an establishment in Louisiana, but finding it unprofitable returned to France in 1841.

Of all the fragrant flowers in the world only about twelve are used in the manufacture of perfumery, to wit: the violet, rose, orange flower, jasmine, tuberose, cassie, lavender, thyme, rosemary, geraniums, jonquil, and fennel—of which the rose and the orange flower are the most valuable. Of the numerous varieties of rose only one is used, the Provence rose, single, pale pink, the most sweet-smelling of roses—not hardy, a temperature of 20° Fahrenheit destroying the crop.

Mr. Aldis encloses a paper by Mr. F. Warwick, of Nice, on the cultivation of flowers for perfumery, from which we quote:

"The year commences with—

"*Violets, double Parma.*—These are usually cultivated beneath the orange trees. The ground ought to be well dug two feet deep with a forked spade. The best time of planting is about the first of April, immediately after the flowering has ended. Subdivide the old plant into five or six small bunches, or if you wish to preserve the original plant in its original place, merely take off the runners. Plant them in rows of nine or ten inches apart. As soon as they are fairly rooted they ought to have a good dressing of liquid manure, which should be repeated in December and January of each year. During the summer they must be irrigated every ten or fifteen days. The plantation should be renewed every five or six years. They begin to bloom in December. Picking for perfumery generally commences in February and ends the middle of April.

"*Jonquil* is cultivated in a good soil, exposed to the sun; needs no irrigation. The flowers are picked in April.

"*Roses* require a deep soil, exposed to the sun. The ground ought to be dug three feet deep. The off-shoots are taken with a small particle of root from the old plants and are planted in rows two feet from plant to plant in the row, and each row five feet apart. When planted out, cut them down, only leaving two ends above the ground. If the weather is dry, water them once after planting otherwise they do not require irrigating. The proper time for planting is from November to February. November is best on high, dry, and sloping ground. Once every year in January the ground should be well manured, dug with a forked instrument, and the superfluous off-shoots taken off to replant. The branches ought then to be bent and fastened or festooned, one plant to another, and dry or stunted branches cut away. The ground ought to be well hoed and cleared of weeds in June. The better they are cared for the better they yield. Nothing should be planted or sown between the rows. After the first year they yield a small crop. A plant from two to four years old will yield from twelve

to sixteen ounces of flowers. The picking begins the last of April or first of May and lasts from three to four weeks.

"*Orange.*—The orange is propagated from the seed. After the first year they are planted in rows about two feet apart. In the third year they are grafted, and in the fourth year removed to where they are to remain. Not only the spot where the tree is to stand but the whole ground should be dug four feet deep. This is of great importance. It will not be observed at first, but if not attended to when the tree is in its prime, a blight will appear and the tree will not increase in size. As this tree lasts with care above two hundred years, every attention ought to be paid to its infancy. The trees are planted in rows from twelve to twenty feet apart. Violets grow well beneath their shade, but should not be planted within three or four feet of the trees. The ground should be dug and manured every year—liquid manure—in March or the first of April, and the trees pruned in June every second or third year.

"The *sweet orange*, (called Portugal,) is cultivated for fruit; its flowers are of much less value for distillation than those of the sour orange and sell for only about half their price.

"The *sour* or *bitter orange* (called bigaradier) yields the best profit, and is less affected by the long, dry heat of summer. The fruit of the sweet orange makes the essential oil of sweet orange, generally called oil of Portugal. It is made in December or January by rubbing the orange in pewter cups, garnished with pricks, which pierce the vesicles of the rind, and cause the oil to flow out. The remainder of the rind is rasped and distilled, yielding an inferior oil. The pulp is mixed with bran and fed to cows, making them yield more milk.

"The bitter orange yields the best blossoms for perfumery. The blossoms are picked in May. The essential oil distilled from the blossoms of the bitter orange is called oil neroli. One ton of blossoms yields two pounds eight ounces of oil neroli. From the leaves and branches, which are pruned in June, is distilled the essential oil called 'petit grains,' which is much used in the manufacture of eau de cologne. The orange water obtained by distillation from the *leaves* is sometimes sold for and used as the orange water distilled from *flowers*, but it is very inferior to the *orange flower water*.

"The fruit of the bitter orange, by the rubbing process, yields a very fine essential oil, bigarade. It is used in many scents, but principally in the manufacture of the famous curaçoa.

"*Geranium.*—The oak leaf or scented verbena geranium is propagated by cuttings in September, replanted in March or April, in ground well exposed to the sun and that can be freely irrigated. It grows to the height of four feet, is cut by the sickle, and distilled in August and September. One ton yields from twenty-four to thirty ounces of the essential oil.

"*Jasmine.*—A delicate flower, requiring much attention in the cultivation, picking, and manipulation. It requires a good, damp soil, easily irrigated, and well exposed to the sun. The grafted plants are placed two feet apart, in rows five feet apart. They must be cut down every spring to within a few inches of the ground. They flower abundantly from July to the end of October, and even later, though the flowers have little or no perfume. From the middle of July to the fifteenth of August the flowers are picked daily just about sunset; after August 15th they are usually picked in the morning as soon as the dew is off. The essential oil is so volatile that it cannot be extracted by distillation, the heated water decomposing it so that only a faint tinge of the perfume is left in the water that passes through the refrigerant.

"*Tuberose.*—This beautiful bulb requires a rich moist soil that can be easily irrigated, and that is well exposed to the sun. The bulb, after being freed from suckers, is planted in April, and blooms abundantly fifteen months afterwards. The time of picking is from the middle of July to October. Like the jasmine, the oil cannot be extracted by distillation.

"*Cassie.*—This pretty flowering shrub is cultivated from seed planted in espaliers. The ground ought to be well prepared to the depth of four or five feet and exposed to the south. It does not require irrigation. The flowers are picked from the first of October to the end of December; but those picked in October have much more perfume and obtain a higher price. The perfume is not very agreeably by itself, but is much used in compounds."

THE PROCESS OF MANUFACTURING.

1. From roses, orange flowers and leaves, geraniums, lavender, thyme and rosemary, the *genuine essential oils* are extracted by *distillation.*

The roses and orange flowers have to be very carefully picked over, the bulbs and all leaves, and everything which could discolor the product removed. They are then put into a still with water; the water is heated, and being thus infused with the flowers the steam rises filled with the oil of the flowers, and passes over into a tube which is coiled round and round in another cylinder filled with cold water, and which is called the refrigerant. Passing through the cold water, the steam is condensed and runs off into a glass receiver—the oil rising to the top, the perfumed water being below.

A ton of roses yields only two ounces of the attar. It is of a golden yellow color with a greenish tinge which become more intense with age. If kept at a temperature below 60° it crystallizes; if kept open to air and light it is easily volatilized.

The *essential oil* is also obtained from the fruit of the orange by rubbing the fruit in cups armed with pricks, as before described.

2. *Perfumed oils* are made by putting the flowers, after they have been carefully picked over, into the finest of virgin olive oil. Usually about twenty-five pounds of flowers are put into one hundred pounds of olive oil and left to infuse in the oil for one or two days; then the oil is warmed and strained, the flowers pressed to extract the oil from them; and then the same quantity of fresh flowers is again put into the oil, and this operation is repeated from twenty to twenty-five times. In this manner the perfumed oils of violet, jonquil, rose, orange, and cassie are made.

3. *Pomades.*—It has been found that the essential oil of flowers, which gives them their perfume, has a strong affinity to lard or grease. Lard and suet are clarified and prepared in the most careful manner, and mingled in the proportion of two parts of lard to one of suet. The product is as white as snow. This grease, thus clarified and prepared, is gently warmed, and when it liquifies, the flowers, most carefully picked over, are put into it. They remain in the grease, being macerated and stirred up in it, for several hours, till the perfume is supposed to have been extracted. Then the liquid grease is strained off and the flowers pressed to extract the grease they retain. This process is repeated with fresh flowers for twenty or twenty-five days, till the pomade is saturated with the perfume. In this way we have pomade of rose, orange, violet, cassie.

The pomades of *jasmine* and *tuberose* are made in a different way, as their essential oils are dissipated and lost by the application of heat, either in distillation or maceration with heated grease. Frames of wood, about twenty inches square, and somewhat like a schoolboy's slate, are made, a pane of glass being in place of the slate. These frames are so perfectly fitted to each other that when they are placed one upon the other the space between the panes of glass is almost hermetically sealed. No air can get in or out. When put one above the other, the spaces between the panes of glass are about half an inch in depth. Upon both sides of these panes of glass the finest clarified lard (pomade) is spread. The flowers of the jasmine, freshly picked, and if possible before they have lost any of their perfume, are sprinkled over the lard, and the frames are then put one upon another. Thus these delicate flowers are imprisoned in a little chamber of lard, and their perfume as it is exhaled is absorbed by the

pomade. They remain so in prison for twenty-four hours, when, having lost their perfume, they are carefully taken off and fresh flowers put in their place. This process goes on for fifty days, during which time the pomade has to be occasionally turned so as to expose all its particles to the perfume. At last, when sufficiently saturated with perfume, it is scraped off the glass and clarified. This is jasmine pomade.

Jasmine perfumed oil is made by still another process. Thickly woven cotton sheets (similar to lamp cotton) are saturated with the finest virgin olive oil, and then placed upon wire netting, held on wooden frames. The flowers are sprinkled on these sheets, thus saturated with oil, and left for twenty-four hours, when they are taken off and fresh flowers put on. This is repeated for about two months, when the oil being sufficiently filled with perfume, the sheets are folded and pressed till the oil is pressed out. In a moderate sized manufactory about two thousand such frames are required. The flowers of the tuberose are treated in the same way as the jasmine.

4. *Extracts.*—This term is applied to the oils or perfumes when extracted by spirits of wine or alcohol.

Strong as is the affinity between the perfume of flowers and grease, their affinity for alcohol has been found to be still greater. Hence, if pomades are immersed in alcohol, the perfume is attracted to the alcohol and leaves the grease. In this way the pomade is left in the alcohol for five or six weeks, and stirred several times a day; at the end of the time the alcohol becomes sufficiently perfumed, and we have an extract.

Thus are produced the extracts of rose, orange, jasmine, tuberose, cassie, and violet.

5. Orange-flower water and rose-water are important products of this business; they are distilled from the flowers, and become separated from the oils in the process of distillation. Orange-flower water is considerably used as a kind of healthy medicinal beverage; it is mixed with "eau sucrée."

THE ANGORA AND CASHMERE GOATS.

Mr. J. S. Diehl, now in Europe collecting information concerning the wool of these animals and its manufacture, writes from Paris, dated May 2, 1867, that he has entered his Cashmere and Angora specimens at the exposition, and thinks his specimens finer than any he has seen. Any amount of Cashmere, camel's hair, and other costly shawls and fabrics are made out of goats' fleece, with various kinds of looms, at the Exposition. He obtained some very fine lithographs and photographs of the genuine and original India or cashmere looms, with valuable information as to the mode of manufacturing.

He wrote again, Paris, May 24, sending circulars and cards representing firms, and cuts of machines manufacturing all kinds of fabrics and goods from Cashmere, Thibet, and Angora goats' hair and wool; also specimens of combed, carded, and spun wool. Nearly all the material is sent from Asia and Russia, is carded, combed, and spun in England and Scotland, and then sent all over Europe to be further manufactured; involving the necessity of following up inquiries in all these centres or points of the trade and manufacture.

The specimens sent comprise some of the finest wools and yarns, leaving him to believe that the reported fabulous prices of $6 and $8 per pound for the wool will prove to be mythical, at the best. The very finest Cashmere wool, bleached and combed ready for use for shawls, sells in France at only $16 per pound. Purchasers of goats in this country will do well to make a note of this, and govern themselves accordingly. But from all he can learn and has seen, he believes that the raising of the goats and manufacture of the wools and hair may be made more

successful in the United States than in Europe; and will proceed on his mission accordingly.

From Leeds, England, June 8, he writes briefly that he has visited the principal centres of manufacture, and had personal interviews with the heads of manufactories and mercantile houses connected with the business. They assured him that they had demand for all the raw material that could be procured; and pronounced his American specimens the most beautiful they had seen—fully equal, if not superior, to the best imported.

His next is from Hamburg, June 12, with numerous cards and circulars, all pertaining to the manufacture.

The next is from Vienna, June 25, with representations and accounts of the various Jacquard looms there in operation, including a newly invented double Jacquard, by which both surfaces of the shawl are wrought at the same time. He states terms on which workmen and looms can be procured from there for the United States, and says they were astonished at the specimens of American Angora fleece he showed them. He concludes: "I am fully satisfied we can make it a success, more valuable than any other wool, fleece, or fabric now known."

The Jacquard loom, even the most improved, is cheap, ranging from $7 to $35 (gold) on the spot; but combing and spinning machinery must be procured from England. When the materials can be furnished in sufficient quantities, and the machinery is at work, doubtless American ingenuity will devise many improvements to cheapen and yet render the whole business more profitable.

TEMPERATURE OF THE SOIL.

As this subject is both interesting and important in agriculture, we give the results of observations recently made in Berlin, Prussia:

Depth in feet—thermometer scale of Reaumur.

	4 feet over.	surface	1′.	1½′.	2′.	2½′.	3′.	4′.	5′.
December, 1864..	2.23	1.16	0.36	0.73	1.45	2.04	2.87	3.94	4.34
January, 1865....	0.31	0.61	0.59	0.02	0.55	1.03	1.67	2.61	2.99
February	4.10	3.10	2.55	1.02	0.25	0.27	0.97	1.94	2.39
March	0.53	0.23	0.49	0.23	0.17	0.37	0.81	0.56	1.88
April.....	8.15	5.71	4.58	4.41	3.89	3.95	2.59	3.56	3.08
May	15.00	12.44	11.32	10.71	9.42	9.21	8.26	7.56	6.52
June.....	12.29	10.76	10.51	10.54	10.15	10.01	9.54	9.19	8.42
July	17.70	15.78	14.80	14.26	13.21	12.90	11.95	11.00	9.88
August.....	14.04	12.92	12.69	12.63	12.28	12.24	11.83	11.53	10.82
September	12.98	11.34	11.17	11.20	11.15	11.13	10.96	11.00	9.88
October	7.73	6.73	6.80	7.30	7.71	8.00	8.46	9.00	9.03
November	4.95	4.27	4.35	4.85	5.23	5.53	6.10	6.84	7.10
December.....	1.74	1.20	2.35	3.03	3.03	4.02	4.56	5.36	5.81
January, 1866....	3.16	2.38	2.29	2.75	3.10	3.37	3.73	4.48	4.85
February	3.35	1.54	2.40	2.96	3.43	3.67	4.02	4.68	4.96

CULTURE OF SUGAR BEETS.

Mons. De Crombecque, of Belgian Agricultural Society, advocates the advantage of planting sugar beets in ridges as favorably influencing the growth of the plant, the leaves thereby not interrupting it. In strong soil it mellows a larger amount of fertile matter, while in light soil the moisture is absorbed in greater quantities, enabling the roots to go deeper into the subsoil. He says that "the culture on ridges requires less manure than on a flat surface, more

ground being obliged to contribute nourishment to the plants. The beets may be weeded with the plough, a great economy of labor, and the plants grow longer and send their roots deeper, thus suffering less from disease, heat, and rain. Plants thus grown also yield a larger percentage of sugar and starch." * * "I have often noticed that in sowing cereals after beets the yield was increased and vegetation stronger when the beets had been planted on ridges."

FARM PRODUCTS AND DOMESTIC ANIMALS IN EUROPE.

Dr. F. B. W. Von Hermann, of the Bavarian Bureau of Statistics, furnishes the following estimates of farm products and domestic animals in the countries named:

Countries.	Bushels for 1,000 inhabitants, deducting seed.							Bushels of oats for 1,000 horses, deducting seed.	Domestic animals for 1,000 inhabitants.			
	Wheat spelts.	Rye.	Mixed grain.	Maize.	Equivalt of all in rye.	Barley.	Potatoes.		Horses.	Cows.	Sheep.	Hogs.
Austria	1,866	2,372	552	1,644	7,332	1,815	4,398	39,766	642	1,152	3,006	1,500
Prussia	1,176	4,818	.....	.....	6,582	1,140	10,998	60,522	576	1,098	6,114	968
Saxony	2,148	4,088	.....	.....	7,410	1,890	13,824	116,748	276	1,176	1,368	696
Wurtemberg	3,816	1,002	324	.....	7,128	3,036	10,932	83,694	336	1,626	2,382	756
France	6,084	1,566	528	606	11,892	1,122	3,498	50,472	480	772	5,580	882
Belgium	3,372	2,892	462	.....	8,526	834	13,920	63,138	366	876	774	606
Holland	1,050	2,246	.....	.....	3,624	954	11,142	35,304	444	1,704	1,566	492
Ireland	828	24	.....	.....	3,734	774	11,514	79,026	630	1,782	3,600	1,200
Bavaria	2,778	4,128	.....	.....	8,298	2,958	10,936	51,348	486	1,956	2,634	1,188

MINERAL PHOSPHATE OF LIME.

The use of apatite, or mineral phosphate of lime, as a fertilizer, is at present attracting considerable attention in Europe, and from recent experiments made, in comparison with other fertilizing substances, this mineral promises to take high rank among fertilizers. The native phosphate of lime, or apatite, is a hard and often well-crystallized mineral, chiefly composed of phosphoric acid and lime, and, as stated by Professor Johnson, is found in Devonshire and Cornwall, England, and also in Scotland, but as yet not in sufficient quantity to allow of its being collected for economical purposes. On the continent it is found in several places, as in the Tyrol, Bohemia, Bavaria, Sweden, and Norway. Most commonly it occurs in thin seams, imbedded in crystalline or volcanic rocks, but seldom in sufficient quantity to repay the cost of working. In America it is found imbedded in granite at Baltimore, in gneiss at Germantown, and in granite in Connecticut, New Hampshire, and Maine, and also in Canada and various other localities. Mineralogists distinguish several varieties of apatite, but generally speaking it has a light green or a reddish color. The beds found in Canada are said to be extensive and the mineral is equal if not superior to that found in Europe. An analysis of the Canada apatite gives the following result:

Phosphate of lime	91.20
Fluoride of calcium	7 60
Chloride of calcium	0 78
Insoluble	0.90
	100.48

This mineral is found in extensive beds and deep veins on the borders of the Rideau river and accessible to river craft. It will, doubtless, be found in

many places in the United States also, where its presence has not yet been discovered.

Guano is limited in supply, and moreover the opinion is gaining ground in Europe that it is exhaustive to the soil, whereas apatite is enriching and sustaining. A number of experiments have recently been made with this fertilizer in England, with most satisfactory results. One of these trials was made by Sir Harry Verney. The soil on which he applied the phosphate was a heavy sandy loam, resting on a clayey subsoil. The ground was sown with chevalier barley with the following result:

	Manure per acre.			*Produce.*
	Tons.	*Cwts.*	*Tcs.*	*Bushels.*
Soil simple	—	—	—	32½
Burnt bones	0	18	0	43½
Unburnt bones	1	7	0	40
Pigeons' dung	0	18	0	61
Spanish phosphorite and sulphuric acid	0	18	0	51½
Spanish phosphate alone	0	18	0	43½
Superphosphate of lime	1	5	3	46¾
Stable-yard dung	20	0	0	66

Another experiment upon the growth of turnips, was made by Dr. Daubeny, of England, with the following result:

	Roots, lbs.	*Tops, lbs.*
Soil simple produced per acre	14,298	30,591
Manured with 10 cwt. bone shavings	19,239	35,210
Spanish phosphorate alone 12 cwt.	28,639	42,016
Spanish phosphorate 12 cwt. mixed sulphuric acid	30,869	34,476
South American guano, 260 lbs.	31,114	47,060
Bones with sulphuric acid, 11 cwt.	31,898	17,600
Bones finely powdered, 12 cwt.	36,185	45,446
Stable dung, 22 tons	39,476	49,921

These trials entirely accord with the experience of others on the native phosphate of lime, and show that, while in every instance a considerable increase of crop was obtained by the addition of certain fertilizers, the Spanish phosphate, especially when its action was quickened by the addition of sulphuric acid, proved nearly as efficacious as bones themselves, unless, indeed, when the latter was very finely powdered.

STATISTICS OF BAVARIA.

From figures published by Dr. F. B. W. von Hermann, of the Royal Bureau of Statistics, we gather the average yield of breadstuffs and hay per acre in the several provinces of the kingdom of Bavaria.

Provinces.	CEREALS.		HAY.	
	Highest.	Lowest.	Highest.	Lowest.
	Bushels.	*Bushels.*	*Cwt.*	*Cwt.*
Upper Bavaria ..... per acre..	25.82	5.70	34.8	1.9
Lower Bavaria ..... " ..	29.68	7.00	37.3	7.7
Pfalz ..... " ..	29.24	5.60	59.2	4.5
Upper Pfalz ..... " ..	30.08	5.80	44.8	3.7
Upper Franconia ..... " ..	19.88	5.88	48.5	4.8
Middle Franconia ..... " ..	26.60	5.68	42.5	5.3
Lower Franconia ..... " ..	29.68	4.24	55.2	2.0
Swabia ..... " ..	32.78	7.07	43.5	2.5

The following table gives the total yield in bushels for the years named:

Years.	Wheat.	Rye.	Spelts.	Barley.	Oats.
1810	1,008,000	2,462,000	576,000	1,026,000	1,134,000
1812	978,000	2,498,000	420,000	1,080,000	1,224,000
1833	1,356,000	2,124,000	492,000	1,083,000	990,000
1839	1,296,000	2,100,000	534,000	894,000	1,176,000
1853	1,272,000	2,118,000	540,000	870,000	1,200,000
1863	1,446,000	1,956,000	528,000	1,038,000	1,032,000

Table showing the relative amounts of tillage and meadow lands in the several provinces:

	Acres.	*Acres.*
Upper Bavaria	1,362,400	865,400
Lower Bavaria	978,400	444,800
Pfalz	624,800	118,000
Upper Pfalz	980,000	292,000
Upper Franconia	710,000	246,400
Middle Franconia	831,600	213,600
Lower Franconia	940,000	196,600
Swabia	791,400	521,600

The average size of farms is now estimated at about thirty acres, of which over eleven acres, on an average, is woodland.

The following gives the rates of wages paid to laborers and servants, including the value of board, &c.:

Provinces.	Male field hands by the day.	Female field hands by the day.	Male servants by the year.	Female servants by the year.
Upper Bavaria	$0 37	$0 27	$81	$61
Lower Bavaria	28	19	67	57
Pfalz	23	18	69	50
Upper Pfalz	19	16	61	49
Upper Franconia	20	16	62	51
Middle Franconia	21	17	70	56
Lower Franconia	23	18	64	53
Swabia	26	21	75	56

It may be remarked that for the last ten years wages have increased from 20 to 40 per cent., especially in regions of commerce and manufactories.

CROPS OF SEVERAL COUNTRIES IN EUROPE, ACCORDING TO THE BUREAU OF STATISTICS IN BAVARIA, 1866.

Countries.	Wheat.		Rye.		Mixed grain.		Maize.		Barley.		Oats.		Potatoes.	
	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.	Bushels.	Per acre.
Austria	80, 428, 000	16. 94	107, 076, 000	14. 02	24, 894, 000	15. 45	77, 520, 000	31. 50	82, 908, 000	15. 24	165, 204, 000	23. 40	193, 320, 000	.....
Prussia	13, 792, 000	12. 67	103, 476, 000	9. 45	.....	.....	.....	.....	23, 208, 000	25. 50	117, 974, 000	21. 76	214, 806, 000	64. 46
Saxony	4, 914, 000	24. 70	9, 750, 000	25. 04	.....	.....	.....	.....	4, 296, 000	30. 56	12, 720, 000	39. 14	32, 976, 000	18. 86
Wurtemberg	7, 878, 000	15. 16	2, 076, 000	20. 19	7, 740, 000	17. 04	.....	.....	6, 276, 000	27. 34	9, 642, 000	30. 60	22, 356, 000	112. 52
France	257, 198, 000	15. 05	68, 130, 000	12. 67	22, 062, 000	15. 59	22, 506, 000	15. 26	46, 250, 000	18. 14	166, 578, 000	20. 20	156, 144, 000	77. 26
Belgium	17, 178, 000	21. 60	16, 380, 000	22. 88	2, 430, 000	23. 98	.....	.....	4, 242, 000	38. 66	20, 028, 000	27. 30	72, 054, 000	196. 72
Holland	3, 990, 000	19. 16	8, 616, 000	16. 48	.....	.....	.....	.....	3, 600, 000	23. 30	10, 104, 000	34. 78	42, 944, 000	162. 66
Ireland	3, 558, 000	15. 16	168, 000	18. 21	.....	.....	.....	.....	5, 190, 000	27. 29	57, 144, 000	29. 36	80, 268, 000	79. 20
Bavaria	15, 684, 000	15. 10	29, 388, 000	16. 14	.....	.....	.....	.....	16, 678, 000	19. 92	24, 624, 000	21. 98	61, 712, 000	203. 24

METEOROLOGY.

[Compiled in the Department of Agriculture from reports made by the observers for the Smithsonian Institution.]

JULY, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, the amount of rain, (in inches and tenths,) for July, 1867, at the following places, as given by the observers named. Daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.				°		°	°	*In.*
Steuben	Washington	J. D. Parker	13	81	8	43	60.5	3.60
Lee	Penobscot	B. H. Towle	30	82	8, 10	48	61.3	1.15
West Waterville	Kennebec	B. F. Wilbur	22, 30	82	8, 10, 26	52	66.6	1.65
Gardiner	....do	R. H. Gardiner	28	79	8	48	64.3	1.96
Lisbon	Androscoggin	Asa P. Moore	.....	.....	.....	.....	.....	3.12
Standish	Cumberland	John P. Moulton	15, 30	86	8, 26	49	66.8	2.70
Cornish	York	Silas West	22, 30	84	8, 9	50	65.7	1.49
Cornishville	....do	G. W. Guptill	15, 30	84	8	48	67.2	2.91
Averages							64.6	2.32
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	23	83	5	44	64.3	2.03
North Barnstead	Belknap	C. H. Pitman	15	86	8	48	66.8	2.51
Concord	Merrimac	John T. Wheeler	22	90	10	46	67.9	1.83
Claremont	Sullivan	Arthur Chase	24, 30	86	9	45	66.8	4.15
Averages							66.5	2.63
VERMONT.								
Lunenburg	Essex	H. A. Cutting	11	84	18	40	65.7	3.75
North Craftsbury	Orleans	Edward P. Wild	15, 23	84	8	47	65.0	2.65
Randolph	Orange	Charles S. Paine	24	87	1	48	69.5	2.70
Middlebury	Addison	H. A. Sheldon	24, 30	80	1	54	66.9	2.84
Averages							66.8	2.99
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	6	84	10	42	63.4	1.38
Georgetown	Essex	S. Augs. Nelson	13	87	9	48	65.5	.....
Newbury	....do	John H. Caldwell	28	89	10	47	66.9	.....
North Billerica	Middlesex	Rev. E. Nason	7	88	8	52	.....	.....
New Bedford	Bristol	Samuel Rodman	5, 28	79	8, 9	49	65.0	2.44
Do	....do	Edward T. Tucker	24	85	10	46	67.2	2.06
Worcester	Worcester	Joseph Draper, M.D.	7	85	9	52	67.2	3.32
Mendon	....do	J. G. Metcalf, M. D.	24	84	9	49	67.0	1.60

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASS.—Continued.				°		°	°	*In.*
Lunenburg	Worcester	G. A. Cunningham	24	88	8	51	67.2	6.05
Amherst	Hampshire	Prof. E. S. Snell	6	85	10	51	67.1	5.67
Richmond	Berkshire	Wm. Bacon	16	92	8	50	72.1	4.50
Williams College	....do	Prof. A. Hopkins	7	87	10	51	67.0	1.47
Averages							66.9	3.17
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	29	84	8, 9	48	64.6	3.50
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	13, 24, 30	80	9	45	63.4	4.91
Columbia	Tolland	Wm. H. Yeomans	13, 28	86	9	50	68.0	.....
Middletown	Middlesex	Pf. J. & W. A. Johnston	13	89	10	48	68.7	5.38
Colebrook	Litchfield	Charlotte Rockwell	7	87	8, 9	52	66.7	.....
Groton	New London	Rev. E. Dewhurst	6, 13	84	9, 10	48	66.7	5.24
Averages							66.7	5.18
NEW YORK.								
Moriches	Suffolk	E. A. Smith & daugh's	29	85	10	51	68.7	8.13
South Hartford	Washington	G. M. Ingalsbe	30	87	1, 10	54	71.6	10.95
Troy	Rensselaer	Jno. W. Heimstreet	7, 30	89	1	59	71.3	3.24
Germantown	Columbia	Rev. S. W. Roe	13, 24, 30	90	1, 12	58	71.4	5.40
Garrisons	Putnam	Thomas B. Arden	30	87	9	50	68.0	4.93
Throg's Neck	Westchester	Miss E. Morris	28, 30	88	9	50	69.0	.....
White Plains	....do	O. R. Willis	6, 7, 8, 13	82	9	48	67.8	.....
Deaf and Dumb Inst.	New York	Prof. O. W. Morris	30	91	9	47	68.5	10.18
Columbia College	....do	Prof. Chas. A. Joy	30	87	9	47	69.0	5.37
St. Xavier's College	....do	Rev. J. M. Aubier	6	87	9	47	69.8	.....
Gouverneur	St. Lawrence	C. H. Russell	24	86	5	54	68.3	1.73
North Hammond	....do	C. A. Wooster	24	90	1	54	69.2	1.33
South Trenton	Oneida	Storrs Barrows	15	94	1	48	68.6	5.30
Cazenovia	Madison	Prof. Wm. Soule	24	90	1, 19	55	68.4	.....
Oneida	....do	S. Spooner, M. D.	30	90	4	55	68.9	7.43
Houseville	Lewis	Walter D. Yale	30	88	1	50	66.0	2.24
Depauville	Jefferson	Henry Haas	24, 25	87	1	52	67.6	2.22
Theresa	....do	S. O. Gregory	.....	.....	.....	.....	.....	1.13
Oswego	Oswego	Wm. S. Malcolm	30	88	4, 5	52	66.2	1.41
Palermo	....do	E. B. Bartlett	30	90	9	51	68.0	1.60
Nichols	Tioga	Robert Howell	7	95	1	48	69.1	.....
Geneva	Ontario	Rev. W. D. Wilson, D. D	30	88	1	51	68.3	2.05
Rochester	Monroe	M. M. Mathews, M. D.	30	90	1	53	69.5	1.40
Rochester University	....do	Prof. C. Dewey	14, 23, 27	85	1	55	69.7	1.40
Little Genesee	Allegany	Daniel Edwards	30	91	1	44	68.3	1.50
Buffalo	Erie	Wm. Ives	23	93	4	52	70.3	1.77
Suspension Bridge	....do	W. Martin Jones	23, 27	94	1	42	69.3	.....
Averages							65.1	3.84
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	16	92	9, 11	50	69.9	8.49
Newark	Essex	W. A. Whitehead	16	84	11	45	66.9	9.75
New Brunswick	Middlesex	Geo. H. Cook	30	86	9	50	68.8	10.90
Trenton	Mercer	E. R. Cook	16, 30	86	9	52	73.1	9.91
Burlington	Burlington	John C. Deacon	30	85	9, 10	50	68.7	8.85

Table showing the range of the thermometer, &c., for July—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW JERSEY—Con.				°		°	°	*In.*
Mount Holly	Burlington	M. J. Rhees, M. D	15, 30	85	11	50	68.8	.....
Seaville*	Cape May	Barker Cole	30	88	11	42	67.4	11.55
Dover	Morris	Howard Shriver	6, 30	84	9, 11	51	67.5	8.28
Readington	Somerset	John Fleming	13, 30	88	11	52	67.8	.....
Haddonfield	Camden	Samuel Wood	14, 30	85	11	50	68.6	6.41
Greenwich	Cumberland	R. C. Sheppard	28, 30	86	9	53	70.1	5.45
Averages							68.9	8.84
PENNSYLVANIA.								
Nyces	Pike	John Grathwohl	30	85	2, 11	45	65.4	3.70
Fallsington	Bucks	Eben'r Hance	15	87	9	52	69.0	8.00
Philadelphia	Philadelphia	Prof. J. A. Kirkpatrick	15, 16, 30	88	9	51	71.5	10.95
Germantown	do	Thomas Meehan	17	88	10, 11, 12, 15	56	72.5	.....
Horsham	Montgomery	Anna Spencer	30	84	9	50	64.6	12.67
Dyberry	Wayne	Theodore Day	7	88	1	46	65.2	.....
North Whitehall	Lehigh	Edward Kohler	16, 30	84	11	43	67.4	.....
Parkesville	Chester	F. Darlington	30	89	11	43	69.5	8.65
Reading	Berks	J. Heyl Raser	6	94	11	50	71.6	.....
Ephrata	Lancaster	W. H. Spera	13, 30	90	11	56	72.5	6.53
Mount Joy	do	J. R. Hoffer	16, 30	88	11	54	71.2	5.25
Harrisburg	Dauphin	John Heisely, M. D.	6	89	11	57	73.3	3.64
Ickesburg	Perry	Wm. E. Baker	15, 30	89	11	55	70.1	5.16
Lewisburg	Union	Prof. C. S. James	30	86	10	57	70.4	4.92
Tioga	Tioga	E. T. Bentley	7	98	1, 2, 11	50	69.5	1.70
Fleming	Center	Samuel Brugger	30	87	1	51	67.1	2.43
Pennsville	Clearfield	Elisha Fenton	7	90	1	49	67.5	1.32
Connellsville	Fayette	John Taylor	25, 27, 30	88	19	56	72.5	.....
New Castle	Lawrence	E. M. McConnell	7, 14, 27	87	1	44	69.2	.....
Canonsburg	Washington	Rev. W. Smith, D.D.	6, 23, 27	86	1	52	71.0	1.97
Averages							69.6	5.49
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	30	89	10	52	71.6	3.74
Catonsville	Baltimore	George S. Grape	16	87	10, 11	56	70.2	.....
Annapolis	Anne Arundel	Wm. R. Goodman	30	88	11	56	72.4	6.41
St. Inigoes	St. Mary's	Rev. J. Stephenson	14, 30	89	9	54	73.4	3.73
Emmittsburg	Frederick	Eli Smith	30	92	11	54	71.2	.....
Averages							71.8	2.63
VIRGINIA.								
Cape Charles L. H.	Northampton	Jean G. Potts	28	84	9	56	70.8	13.54
Surry C. H.	Surry	B. W. Jones	29	92	9, 10	58	75.1	.....
Hewlett's	Hanover	J. F. Adams	30	88	1	46	69.6	5.50
Mount Solon	Augusta	James T. Clark, M.D.	15, 30	86	11	56	72.2	.....
Lynchburg	Bedford	Chas. I. Merriwether.	30	84	11	52	.....	.....
Averages							71.9	9.52
WEST VIRGINIA.								
Romney	Hampshire	W. H. McDowell	6	92	1, 10	58	72.3	.....
Grafton	Taylor	W. H. Sharp, M. D	17	94	1	56	.....	1.20
Cabell C. H.	Cabell	C. L. Roffe	29	88	20	58	74.0	0.10
Averages							73.2	0.65

*In March report the rain fall should have read 19.10.

Table showing the range of the thermometer, &c., for July—Continued.

Stations.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NORTH CAROLINA.				°		°	°	*In.*
Goldsboro'	Wayne	E. W. Adams, A. M.	30	92	10, 11	59	75. 3	15. 15
Oxford	Granville	Wm. R. Hicks, M. D	30	87	11	55	73. 1	8. 35
Raleigh	Wake	Rev. F. P. Brewer	30	99	10	57	75. 2	.....
Albemarle	Stanley	F. J. Kron	30	93	1	54	72. 7	9. 04
Statesville	Iredell	Thos. A. Alison	14	86	11	50	69. 2	6. 75
Asheville	Buncombe	E. J. Aston	30	85	9	59	69. 6	14. 40
Averages							72. 5	10. 74
SOUTH CAROLINA.								
Aiken	Barnwell	John H. Cornish	27	91	11	61	73. 0	11. 49
ALABAMA.								
Moulton	Lawrence	Thos. M. Peters, A. M.	9, 10	85	19	61	75. 3	5. 43
Prairie Bluff	Wilcox	Wm. Henderson	15	96	2	73	81. 6	.....
Opelika	Lee	J. H. Shields	10	91	12	69	77. 8	.....
Havana	Hale	J. W. A. Wright	11, 27	86	8	44	67. 7	5. 29
Averages							75. 6	5. 36
FLORIDA.								
Jacksonville	Duval	A. S. Baldwin	29	97	4, 5, 6, 11, 22	72	80. 5	10. 49
Gordon	Alachua	H. B. Scott	2, 16, 25, 29	92	10, 11	70	79. 4	.....
Port Orange		J. M. Hawks, M. D	29	88	9, 11, 22	74	79. 8	.....
Averages							79. 9	10. 49
TEXAS.								
Houston	Harris	Miss E. Baxter	24	100	1	68	82. 0	.....
Waco	McLellan	Edw. Merrill, M. D	21	101	1	66	82. 6	2. 80
Austin	Travis	J. Van Nostrand	22	97	1	66	81. 2	5. 05
Averages							81. 9	3. 93
LOUISIANA.								
Benton	Bossier	J. H. Carter	17	92	2	65	83. 2	.....
MISSISSIPPI.								
Grenada	Yalabusha	Albert Moore	22, 23	90	4	60	.....	.....
Fayette	Jefferson	Rev. T. H. Cleland	24	86	2, 4	64	74. 9	.....
Natchez	Adams	Wm. McCary	25	88	20	66	76. 8	4. 76
Averages							75. 9	4. 76
TENNESSEE.								
Lookout Mountain	Hamilton	Rev. C. F. P. Bancroft	29	88	12	66	75. 2	.....
Clarksville	Montgomery	Prof. Wm. M. Stewart	17	87	3	63	73. 9	2. 53
Franklin	Williamson	I. M. Parker	23, 27, 28, 29	87	7	64	76. 2	.....
Averages							75. 1	2. 53
KENTUCKY.								
Chilesburg	Fayette	Sam'l D. Martin, M. D.	29	92	1	54	73. 1	4. 86
Louisville	Jefferson	Mrs. L. Young	17, 30	90	1	55	72. 0	4. 58
Averages							72. 6	4. 72
OHIO.								
Steubenville	Jefferson	Roswell Marsh	.....	.....	.....	.....	77. 0	2. 55
Martin's Ferry	Belmont	Chas. R. Shreve	28, 30	87	4	60	72. 4	.....

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.				°		°	°	*In.*
Painesville	Lake	E. J. Ferris			3	56		1.31
Milnersville	Guernsey	Rev. D. Thompson	24	98	3, 19	54		2.85
Cleveland	Cuyahoga	Dr. T. A. Smurr	30	98	3, 19, 20	60	74.3	
Wooster	Wayne	Martin Winger	30	91	19	58	73.9	
Kelley's Island	Erie	Geo. C. Huntington	17, 30	88	1	58	72.4	1.19
Norwalk	Huron	Rev. A. Newton	30	90	9	56	70.8	1.45
Greenwich	do	M. M. Marsh, M. D	17	89	3, 4	61	74.5	3.21
North Fairfield	do	O. Burras	30	90	1	54	69.2	2.76
Marion	Marion	H. A. True, M.D	30	89	3, 20	58	71.5	4.92
Kenton	Hardin	C. H. Smith, M. D	6	89	3, 4	60	74.3	4.63
Urbana University	Champaign	M. G. Williams	30	90	3, 4	58	73.3	4.08
Hillsboro'	Highland	J. McD. Mathews	30	88	4	57	72.1	2.32
Bethel	Clermont	Geo. W. Crane	6, 17, 30	88	3, 9, 10	58	71.8	3.00
Cincinnati	Hamilton	R. C. Phillips	25, 30	90	1	62	77.6	3.67
College Hill	do	John W. Hammitt	22, 25, 30	90	1, 19	60	74.8	6.38
Do	do	L. B. Tuckerman	14	91	3, 4, 18	58	73.7	5.50
Averages							73.4	3.32
MICHIGAN.								
Monroe City	Monroe	Miss F. E. Whelpley	15, 30	93	3	44	73.7	2.25
State Agricl't'l Col	Ingham	Prof. R. C. Kedzie	23	92	3	55	71.6	2.83
Litchfield	Hillsdale	R. Bullard	23	93	3	55	68.4	2.56
Grand Rapids	Kent	E. S. Holmes, D.D.S.	23	96	3	53	72.7	
Northport	Leelanaw	Rev. Geo. N. Smith	6, 29	86	1, 3, 4	48	64.1	
Otsego	Allegan	Milton Chase, M.D	8, 23	90	2, 3	50	68.7	
Copper Fal's	Kewenaw	Dr. S. H. Whittlesey	11	80	2	44	60.1	3.42
Ontonagon	Ontonagon	Edwin Ellis, M. D	23, 24	90	2	42	62.7	
Averages							67.8	2.77
INDIANA.								
Aurora	Dearborn	Geo. Sutton, M. D	17	94	1	59	74.9	4.70
Vevay	Switzerland	Chas. G. Boerner	22	100	18	60	79.6	3.20
Muncie	Delaware	G. W. H. Kemper, M.D	30	94	3, 18	58	74.5	3.30
Columbia City	Whitley	Dr. F. & Miss McCoy	22, 23	96	18	56	78.3	2.00
Indianapolis	Marion	Mrs. Z. Butterfield	22	96	19	57	74.3	
Merom	Sullivan	Thomas Holmes	24	84	1	56	73.4	1.10
New Harmony	Posey	John Chappellsmith	24, 30	91	18	65	77.9	1.43
Averages							76.1	2.62
ILLINOIS.								
Chicago	Cook	Samuel Brookes	6	100	1	54	74.3	
Do	do	J. G. Langguth, jr	30	94	1	56	72.4	1.86
Golconda	Pope	W. V. Eldredge	23	98	3, 13, 19	58	78.2	1.80
Aurora	Kane	A. & E. D. Spaulding	22	90	2	48	72.0	3.41
Sandwich	De Kalb	N. E. Ballou, M. D	22	96	1, 2	58	73.4	6.93
Ottawa	La Salle	Mrs. E. H. Merwin	22	97	18	59	74.0	3.73
Winnebago	Winnebago	J. W. & Miss Tolman	8, 9, 30	92	1	55	72.3	3.74
Hennepin	Putnam	Smiley Shepherd	6, 22, 30	92	18	52	70.0	
Magnolia	do	Henry K. Smith	9	95	19	54	73.9	5.70
Rochelle	Ogle	Daniel Carey	22	96	1	54	73.0	
Wyanet	Bureau	E. S. & Miss Phelps	22	93	1	54	73.5	3.30
Tiskilwa	do	Verry Aldrich	22	96	1	55	73.6	
Elmira	Stark	O. A. Blanchard	22	94	2	56	74.5	1.62

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
ILLINOIS—Cont'd.				°		°	°	*In.*
Peoria	Peoria	Frederick Brendel	6, 22	92	18	59	75.1	2.92
Springfield	Sangamon	G. M. Brinkerhoff	22	94	1, 2	54	74.6	.....
Loami	....do	Timothy Dudley	22	97	1, 17	61	75.6	2.60
Waterloo	Monroe	H. Künster	21, 22	96	1	58	78.0	.....
Dubois	Washington	William C. Spencer	23	94	3	50	74.2	5.18
Manchester	Scott	Dr. J. & C. W. Grant	22	95	1, 2, 18	61	75.2	3.36
Mount Sterling	Brown	Rev. A. Duncan	14	93	2, 27	62	78.2	.....
Andalusia	Rock Island	E. H. Bowman, M. D.	8, 9	91	1, 3	57	72.9	.....
Augusta	Hancock	S. B. Mead, M. D	22	87	18	61	77.0	3.65
Averages							74.4	3.56
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	30	91	1	50	65.7	1.34
Plymouth	Sheboygan	G. Moeller	14, 22, 23	91	2	53	71.3	1.50
Milwaukee	Milwaukee	I. A. Lapham, LL.D	30	92	1	46	67.4	2.04
Do	....do	Carl Winkler, M. D.	30	92	1	52	67.8	2.23
Geneva	Walworth	Wm. H. Whiting	22	92	1, 3	54	72.1	.....
Delavan	....do	Leveus Eddy	30	86	1	53	69.7	2.03
Waupacca	Waupacca	H. C. Mead	23	92	1	50	72.6	.....
Do	....do	C. D. Webster	7	90	1	50	69.5	4.70
Embarrass	....do	E. Everett Breed	9	98	1	48	68.2	3.70
Rocky Run	Columbia	W. W. Curtis	8, 9, 12	89	1	52	75.4	2.31
Baraboo	Sauk	M. C. Waite	10	91	1	52	73.4	5.25
New Lisbon	Juneau	John L. Dungan	8	94	1	54	67.7	.....
Averages							70.1	2.79
MINNESOTA.								
Beaver Bay	Lake	C. Wieland	11	84	4	44	59.1	7.46
Red Wing	Goodhue	A. M. Stevens	29	95	2	51	68.5	8.91
St. Paul	Ramsey	Rev. A. B. Paterson	12	88	1	50	68.1	9.55
Minneapolis	Hennepin	Wm. Cheney	13	86	2	51	68.1	9.24
New Ulm	Brown	Charles Roos	29	93	1, 19	52	71.2	11.65
Do	....do	John Kauta	2, 29, 30	100	1, 17, 18, 19, 27, 28	50	70.0	.....
Averages							67.5	9.36
IOWA.								
Davenport	Scott	Sydney Smith	10	88	1	52	72.6	3.88
Dubuque	Dubuque	Asa Horr, M. D	9, 30	89	1, 2	56	73.1	6.83
Monticello	Jones	M. M. Moulton	6	91	1	54	71.8	6.32
Fort Madison	Lee	Daniel McCready	9	91	25	59	72.2	4.11
Guttenberg	Clayton	Jas. P. Dickerson	6, 7, 8, 12	92	2, 3, 17	52	70.1	.....
Ceres	....do	Jno. M. Hagensick	6	94	1	54	73.2	.....
Mount Vernon	Linn	Prof. A. Collins	6, 8, 9	92	17	54	71.2	.....
Iowa City	Johnson	Prof. Theo. S. Parvin	4, 12	90	18	50	70.5	3.94
Independence	Buchanan	Mrs. D. B. Wheaton	6	93	2, 27	53	72.4	10.40
Do	....do	Geo. Warne, M. D	9	91	1, 2	55	71.8	7.20
Waterloo	Black Hawk	T. Steed	22	88	17	52	69.8	.....
Marble Rock	Floyd	H. Wades	7, 30	86	28	52	70.0	.....
Iowa Falls	Hardin	N. Townsend	30	88	2, 18	50	65.6	17.20
Des Moines	Polk	.....	3	90	17	53	72.8	10.25
Algona	Kossuth	P. Dorweiler	12, 29	90	1	52	69.6	.....
Do	....do	James H. Warren	12	88	17	53	69.4	.....

Table showing the range of the thermometer, &c., for July—Continued.

Stations, &c.	Counties.	Observers.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
IOWA—Continued.				°		°	°	*In.*
Dakota	Humboldt	Wm. O Atkinson	5, 12, 21	90	2	52	68.4	.....
Fontanelle	Adair	A. F. Bryant	22	92	2, 17	55	73.0	7.00
Harris Grove	Harrison	Jacob F. Stern	29	88	17	47	68.0	4.20
Fort Dodge	Webster	C. N. Jorgensen	5	91	1, 17	53	71.5	8.99
Averages							70.9	7.69
MISSOURI.								
St. Louis	St. Louis	Rev. F. H. Stuntebeck	22	93	1	65	78.0	3.30
Allenton	....do	A. Fendler	22	96	3	56	73.0	5.14
Union	Franklin	Miss Belle Moore	22	99	17	58	76.6	2.56
Canton	Lewis	Geo. P. Ray	9, 12	89	1	64	76.3	.....
Rolla	Phelps	H. Ruggles	22	90	28	49	70.8	1.09
Harrisonville	Cass	John Christian	3, 4, 23	90	17	58	73.9	2.58
Oregon	Holt	Wm. Kaucher	4, 22	94	17	51	74.7	4.11
Averages							74.8	3.13
KANSAS.								
Leavenworth	Leavenworth	J. Stayman, M. D	30	96	11	52	72.9	4.43
Atchison	Atchison	Dr. H. B. & Miss Horn	20	98	17	52	70.5	4.75
Holton	Jackson	Dr. James Watters	5, 22, 30	94	17	57	76.3	.....
State Agricult'l Col	Riley	Prof. B. F. Mudge	3	91	1, 17	58	73.9	5.65
Council Grove	Morris	A. Woodworth, M.D.	22	94	17	52	75.2	3.75
Averages							73.8	4.65
NEBRASKA.								
Elkhorn	Washington	John S. Bowen	22	94	17	51	71.3	.....
De Soto	....do	Charles Seltz	22	94	17	51	72.5	5.48
Bellevue	Sarpy	Rev. W. & Miss Hamilton.	22, 23	86	17	49	73.3	2.91
Glendale	Cass	Dr. A. L. & Miss Child	22	92	17	52	72.3	3.15
Peru	Nehema	J. M. McKenzil	22, 30	90	17	54	73.7	.....
Averages							72.6	3.85

NOTES OF THE WEATHER, JUNE 1, 1867.

FROM THE SMITHSONIAN INSTITUTION.

Gardiner, Maine.—Mean temperature of the month about half a degree below the average of the month for thirty-one years. Amount of rain an inch and a quarter less than the average.

Steuben, Maine.—June 10.—Frost by the river this morning.

Lee, Maine.—June 10.—White frost in low places, no injury to vegetation. 28.—First ripe strawberries seen growing wild.

South Antrim, N. H.—June 30.—There has been very little rain this month, and the ground is now pretty dry.

Georgetown, Mass.—June 16.—Severe thunder-shower at 5.10 p. m.; a house struck by lightning and a man killed.

Richmond, Mass.—June 16.—Heavy thunder-shower from 2 to 3½ p. m.; roads badly washed.

Lunenburg, Mass.—June 7.—At 1 p. m. the thermometer stood at 94°, wind west; at 1½ the wind veered into the east; at 3 p. m. the temperature had fallen to 56°, with a heavy thunder-shower from 3 to 4½ p. m.

Columbia, Conn.—June 30.—There has been a peculiarity in all showers thus far this season, that instead of breaking away and being followed by fair weather, they run into a drizzling rain or cloudy weather for two or three days.

Troy, N. Y.—June 16.—Heavy thunder-shower from 1.50 to 2.45 p. m. For twenty minutes the roll of thunder was almost continuous.

Rochester, N. Y.—Mean temperature of the month was three degrees and a third above the general average for June. Rain 1.40 inch; general average for the month three inches.

Buffalo, N. Y.—The mean temperature of the month was five and one-third degrees higher than the average of June for nine years. The first strawberries raised in this county appeared in market on the 15th from the town of Eden.

Moriches, N. Y.—This June has been remarkable for the large amount of rain, and for a set of the wind from the southeast after clearing up, instead of from the southwest as usual at this season of the year.

South Hartford, N. Y.—The most notable feature of the month was the great rain of the 15th and 16th, over seven inches of water falling in twenty-four hours, the bulk of it in eight hours, from 9 p. m. of the 15th to 5 a. m. of the 16th.

Newark, N. J.—During the last twenty-four years (the period covered by the reports from this station) there were only seven Junes in which the mercury did not rise above 90 degrees, and but one of those (June, 1862) had so low a maximum as the month just closed (84°.) The mean temperature was less than a degree below the average of the month during that period. The most marked peculiarity of June was the quantity of rain that fell (9.745 inches,) being more than six and a half inches above the average for the month during the last twenty-four years, and more than three inches above the quantity in any June during that period. The rains were distributed throughout the month.

Greenwich, N. J.—There was an unusual number of rainy days during the month; one day was entirely clear and six were nearly so.

Fallsington, Penn.—The past June was the wettest on the record of the observer, which began in 1849.

Philadelphia, Penn.—A very heavy rain began during the night of the 16th; at 8 a. m. the 17th, nearly four inches had fallen; the rain continued in heavy showers at intervals until the night of the 18th, amounting in all to 7.36 inches. The month was cold and wet; the mean temperature was nearly two degrees below the average. June, 1862, was three degrees colder than the present

month. The quantity of rain was greater than ever observed before in June. The nearest approach to it was in June, 1855, when eight inches fell.

Horsham, Penn.—June was unusually wet; about one-third more rain fell than in any month for the last three years.

Fleming, Penn.—June 17.—A terrific thunder-storm passed over this place this evening between 8 and 10 o'clock, which did more damage than any storm in the same length of time for many years. From six to eight miles west of this the water fell in such torrents that it swept away everything before it; a steam saw-mill, storehouse, road bridges, railroad bridges, and tracks, were carried away in a very short time, while a few miles further west there was very little rain.

Grampian Hills, Penn.—June was remarkable for the small quantity of rain which fell. The weather has been mostly warm and dry; no floods or storms of wind, and but little thunder or lightning. The rains through the month were very light, there being but one (on the 2d) that reached one-fourth of an inch on any one day.

Emmittsburg, Md.—June 11.—Frost this morning, but doing no damage. 18.—Rain 9 a. m. to 11 a. m. Heavy rain at 4 p. m.

Woodlawn, Md.—June 11.—Frost in the valleys, thermometer 40° at 4 a. m.

Mount Solon, Va.—June 25.—Very hard storm, continuing from one p. m. to two p. m.; a great quantity of water falling in a short time. 30.—There has been very little thunder during the month.

Cape Charles Light-house, Va.—June 9.—Heavy thunder and lightning at 10 p. m., from the southeast; duration of the squall one hour and forty minutes. Rain from 11 a. m. 18th to 8 a. m. the 19th. 24th, thunder squall with sharp lightning and heavy rain from 5 p. m. to 8 a. m.

Ashland, West Virginia.—During the month of June in this vicinity only one-tenth of an inch of rain has fallen, and all crops are suffering badly for the want of rain, particularly corn. In many parts of the county there have been frequent showers, and corn crops are promising.

Grafton, West Virginia.—June has been unusually dry; during the latter part of the month vegetation has been rather hurt by the drought.

Goldsboro', N. C.—The fall of rain during this month has been greater than at any time within memory. The rivers are very full, causing a sad destruction of low land crops.

Albermarle, N. C.—This has been the wettest June in this part of the country remembered by the oldest men. The consequences have been injury to the late wheat while in bloom, drowning out the corn in the bottoms, and an impossibility in all situations to keep fields and gardens clean.

Raleigh, N. C.—During the past month the streams have been higher than at any former period for years, and cotton, corn, and wheat have been seriously injured

Moulton, Ala.—June 6.—Irish potatoes abundant for the table. 10th, mulberries fully ripe. 14th, wheat harvest commenced. 26th, oats harvested. 28th, rye ripe.

Austin, Texas.—Colorado river very high from the 13th to the 15th.

Waco, Texas.—The Brazos river was higher on the first of June than it had been before for several years.

Chilesburg, Ky.—The two heaviest rains of the month were on the 2d and 12th. On the evening of the 8th there was a thunder-storm with little rain, but very strong wind, blowing down some fences.

Cincinnati, Ohio.—June 4.—Heavy thunder-storm from 4½ p. m. to 5 p. m.; fall of rain during that time an inch and a half.

College Hill, Ohio.—June 4.—Hailstorm from 4 to 4.30 p. m.; began from the SW. and returned from the NE. Many of the hailstones were as large as hickory nuts.

Kelley's Island, Ohio.—June 26.—Catawba grapes in full blossom. 30th, temperature of lake 73°.

Vevay, Ind.—June 24.—The first wheat cut in Switzerland county. The yield throughout the county is said to be unprecedented. On account of the great heat and comparatively small amount of rain, vegetation is suffering, particularly the corn. The ground is cracking open in many places. On digging a hole not the least sign of moisture was found until reaching a depth of eighteen inches. Were it not for the heavy dews and fogs nearly every morning, much vegetation would have perished.

Sandwich, Ill.—On the night of June 22, at 11 o'clock, began one of the most violent thunder-storms that has visited this region for many years. The lightning was not of a terrific character, but the wind blew a gale, and rain fell in three hours to the unprecedented amount of five and one-tenth inches. In some localities much damage was done. At Elgin, in the adjoining county, the Baptist church was unroofed, and the building of the American Watch Company partly unroofed.

Rochelle, Ill.—June 23.—The thunder-storm last night was an unusually heavy one, both in quantity of rain and in the amount of thunder and lightning.

Tiskilwa, Ill.—June has been a month of continued warm weather, with frequent showers, remarkably fine for ploughing corn and killing weeds.

Dubois, Ill.—June 6.—A violent gale from the south at 4.30 p. m., with thunder, lightning, hail and rain, blowing down trees and fences, and unroofing buildings.

Augusta, Ill—June 6, at 5.15 p. m., a very strong whirlwind for a few minutes.

Plymouth, Wis.—June 30.—The crops here are suffering from the drought, especially spring wheat, barley, oats, and all kinds of vegetables, while all around there have been good showers of rain in the latter part of the month.

Embarrass, Wis.—There was a good deal of thunder and lightning during the month with hard showers.

Baraboo, Wis.—June 28.—Slight frost this morning, in low places, very little damage done. The observer has never seen more good growing weather in one month than during the past June. The growth of crops, trees, &c., is much greater than known for the last twenty years in Wisconsin. Hops are two weeks in advance of last season at this date, and many things are growing in the same ratio.

Red Wing, Minn.—The month has been very rainy, and the river unusually high.

Des Moines, Iowa.—June was characterized by heavy rains. The rivers have been unusually swollen, and out of their banks. The Des Moines river has been higher this spring than at any time since the great flood of 1851, and lacking only a few inches of the same mark.

Monticello, Iowa.—There was lightning on twenty-six days in June.

Algona, Iowa.—There have been many thunder-storms during the month. On the 14th, thunder-showers followed each other in quick succession all day. The river rose over the bottoms and within eighteen inches of the April flood. June 23.—Thunder-storm at 7.40 a.m. Another terrible thunder-storm at 11 a. m. The lightning struck the Baptist church, tearing the steeple to splinters. Another thunder-storm at 5 p. m., all from the northwest. The last one came back from southeast at 9 p. m. Rained till 8 a. m. of the 24th.

Guttenberg, Iowa—There was a great rise in the Mississippi river during June, reaching its height on the 23d, two feet higher than in May.

Independence, Iowa.—June.—Chestnut in first leaf. 4th, hickory and black oak putting out first leaf. 10th, burr oak and soft maple in full leaf. 15th, hickory in full leaf.

Holton, Kansas.—June 5th, grasshoppers destroying the gardens in town.

10th, passing by the million, southeast. 28th, on the wing going north-northeast with the wind by the million. 30th, getting scarce; supposed to be done here, or nearly so, unless they come from some other place. Some fields of wheat are eaten up, while others are not hurt.

Council Grove, Kansas.—All the rains this month have been accompanied with much thunder and lightning.

Peru, Nebraska.—In October last the grasshoppers came from the northwest and covered this country and deposited their eggs. In the spring they began to hatch, and they have done much damage to the crops. Wheat and oats are mostly destroyed, and they are now working on the corn. At the end of the month they began to take wing, and soon the air became so filled with them that they appeared like fleecy clouds.

Glendale, Nebraska.—The principal rain in June was on the 8th and 9th, two and a quarter inches falling during those two days.

Richland, Nebraska.—June 5th, trees generally in leaf. 7th, raspberry blooming. 26th, currants ripe. 30th, more than the first half of the month was wet and violent.